



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/018,188	12/18/2001	Naoyuki Koyama	511.40998X00	7930
7590	06/15/2005			EXAMINER ELEY, TIMOTHY V
Antonelli Terry Stout & Kraus Suite 1800 1300 North Seventeenth Street Arlington, VA 22209			ART UNIT 3724	PAPER NUMBER

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/018,188	KOYAMA ET AL.
	Examiner	Art Unit
	Timothy V Eley	3724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 22 March 2005.  
 2a) This action is FINAL.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-22 is/are pending in the application.  
 4a) Of the above claim(s) 10, 11, 18 and 19 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-9, 12-17 and 20-22 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
     Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
     Paper No(s)/Mail Date. \_\_\_\_\_

5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_

**DETAILED ACTION**

1. The indicated allowability of claims 4 and 5 is withdrawn.

Rejections based on Sachan et al(2003/0181046) used alone follow.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3, 7, 8, 12, 15-17, and 20-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Sachan et al(2003/0181046).

- Sachan et al disclose a CMP abrasive comprising cerium oxide particles, a dispersant, water, and, additionally, an organic polymer which is polyvinyl pyrrolidine (applicant's claim 7) having an atom or a structure capable of forming a hydrogen bond with a hydroxyl group present on a surface of a film to be polished. See paragraphs 0016, 0021, and 0023, and claims 4 and 5.

Art Unit: 3724

- Regarding claims 2 and 3, since the organic polymer is polyvinyl pyrrolidine, it inherently meets the limitations of claims 2 and 3.
- Regarding claims 8 and 15, the molecular weight of the polyvinyl pyrrolidine inherently falls into applicant's broad range.
- Regarding claim 12, since polyvinyl pyrrolidine and water are included in the CMP abrasive disclosed by Sachan et al, they also form an additive as recited in applicant's claim 12.
- Regarding claims 16,17,20, and 21, the abrasive/additive is capable of being used to polish the films recited.
- Regarding claims 22, the organic polymer is in addition to the dispersant in the CMP abrasive.

***Claim Rejections - 35 USC § 103***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 4-6,9,13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sachan et al.

- Sachan et al is explained above.
- Sachan et al does not specifically disclose the exact adsorption ratios and amount of the organic polymer, nor the exact sedimentation speed of the cerium oxide particles.
- However, the exact adsorption ratios and amount of the organic polymer and the exact sedimentation speed of the cerium oxide

Art Unit: 3724

particles would have been obvious matters of choice to one having ordinary skill in the art at the time the invention was made since applicant has not disclosed that the exact adsorption ratios and amount of the organic polymer, and the exact sedimentation speed of the cerium oxide particles are critical to the invention. Also, one having ordinary skill in the art would choose these variables to produce a desired result in a method of using the abrasive/additive.

***Response to Arguments***

6. Applicant's arguments with have been considered but are moot in view of the new ground(s) of rejection.

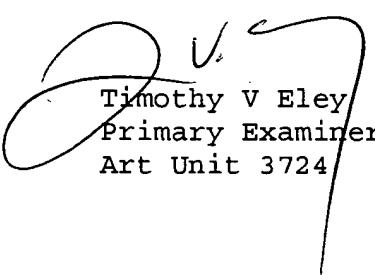
***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy V Eley whose telephone number is 571-272-4506. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Allan N Shoap can be reached on 571-272-4514. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3724

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Timothy V Eley  
Primary Examiner  
Art Unit 3724

tve